REMARKS

In the Office Action dated March 30, 2004, claims 1-4, 8-15, 17-21, 24-28, 35 and 36 were rejected under 35 U.S.C. § 103 over U.S. Patent No. 6,055,236 (Nessett) in view of D. Maughan, entitled "Internet Security Association and Key Management Protocol (ISAKMP)," RFC 2408 (November 1998) (Maughan).

Independent claim 1 recites a method of routing a data unit that comprises receiving the data unit, the data unit including ISAKMP security information and address information. The method further comprises *translating* the address information to an address of a target network entity based on the ISAKMP information.

Nessett teaches distributed network address translation with security. When sending an outgoing packet, a local network device adds an outer or tunneling IP header that contains the internal network address of the source network device and an internal network address of a router on the local network. Nessett, 15:42-66. When the router receives the outgoing packet, the router 26 of Nessett *removes* the outer header and forwards the remaining packet to the external network. Nessett, 32:41-49. Note that the router 26 *strips* the outer header from the packet before forwarding it to the external network--the router 26 does not *translate* the address in the outgoing packet. Similarly, for an incoming packet from the external network, the router 26 constructs the outer header or tunneling header and adds the outer header to the incoming packet. Nessett, 32:56-60. The outer header contains the source local network address of the router 26 and the destination local network address of the local network device. The packet is forwarded to the local network device, which removes the outer header and processes the packet. Nessett, 32:60-62. "Thus, the router 26 does *not* modify contents of a received IPsec packet." Nessett, 32:63-64. In other words, the router 26 of Nessett does not perform *translation* of address information included in a received data unit (which would involve modifying the content of the data unit). Instead, the router 26 of Nessett *strips* an outer header from an outgoing packet, and *adds* an outer header to an incoming packet. Translation of the address information contained in the data unit is avoided by the distributed network address translation scheme of Nessett.

Distributed network address translation as performed in Nessett is distinguished from regular network address translation. As discussed in Nessett, a problem of regular network address translation is that it interferes with the end-to-end routing principle of the Internet that recommends that packets flow end-to-end between network devices *without* changing the *contents* of any packet along a transmission route. Nessett, 1:60-65. Also, translating between a local network address and an external network address at a router is computationally expensive, and causes security problems. Nessett, 2:1-10. In fact, computational burdens placed on a network address translation router may be significant and may degrade network performance. Nessett, 2:20-22. To avoid network address translation by the router, the distributed network address translation arrangement is proposed by Nessett, which adds an outer or tunneling header to a packet, with the outer or tunneling header containing internal network addresses to enable communication between network devices on an internal network. Before a packet is transmitted to an external network, this outer header is stripped. The stripping and addition of an outer header containing local network addresses do not constitute translating the address information of a received data unit, as recited in claim 1.

In view of the foregoing, it is respectfully submitted that even if Nessett can be properly combined with Maughan, the asserted of combination of references does not disclose or suggest *all* elements of claim 1. Therefore, a *prima facie* case of obviousness has not been established for at least this reason.

Moreover, there is simply no motivation or suggestion to combine Nessett and Maughan in the manner proposed by the Office Action. Nessett actually *teaches away* from the claimed invention, since Nessett teaches that translating of address information in a received data unit is undesirable because it is computationally intensive and poses security problems. Rather than perform translation of address information in a received data unit, the distributed network address translation scheme described by Nessett involves stripping and adding an outer header to outgoing and incoming packets, respectively, by the router 26. Because Nessett teaches away from the claimed invention, there is not motivation or suggestion to combine the teachings of Nessett and Maughan.

Moreover, Nessett is simply silent on any teaching of using ISAKMP information to perform address information translation, as recited in claim 1. Although Nessett

describes a way to map an SPI value (of an ESP header) to a local IP address (using the mapping information of Figure 21), there is no teaching or suggestion whatsoever that a similar mapping can be performed between ISAKMP information and the local IP addresses. To perform this mapping between ISAKMP information and network addresses, the presence of initiator and responder cookies according to ISAKMP are typically used. Nessett does not even mention the initiator and responder cookies of the ISAKMP security information. Although the ISAKMP specification in Maughan describes ISAKMP information in great detail, including the initiator and responder cookies of the ISAKMP security information, there is no suggestion whatsoever in Maughan of using the ISAKMP information to perform address translation. Thus, what the Office Action has performed is a classic example of using impermissible hindsight to combine reference teachings by picking and choosing isolated elements from the individual references to achieve the claimed invention, where no motivation or suggestion existed to combine the reference teachings.

In view of the foregoing, it is respectfully submitted that a *prima facie* of obviousness has not been established with respect to claim 1 for the further reason that there is no motivation or suggestion to combine the teachings of Nessett and Maughan.

Independent claim 26 is similarly allowable over the asserted combination of Nessett and Maughan. Claim 26 recites receiving a data unit having ISAKMP security information and a destination address, accessing one or more translation tables each containing ISAKMP information and an address of a network entity and *converting* the destination address of the data unit to the network entity address based on the ISAKMP information and the address in the one or more translation tables. In Nessett, as discussed above, the stripping and adding of an outer header to outgoing and incoming packets by a router does not constitute *converting* a destination address as performed in claim 26. Therefore, even if combined, the asserted combination of Nessett and Maughan fails to teach or suggest the claimed invention.

Moreover, as discussed above, there is no motivation or suggestion to combine Nessett and Maughan for the reason that Nessett teaches away from the claimed invention, and further, there is nothing within Nessett or Maughan to suggest to a person of ordinary skill that conversion of a destination address can be based on ISAKMP

information. Therefore, a *prima facie* case of obviousness has not been established with respect to independent claim 26.

Independent claim 28 is allowable over the asserted combination of Nessett and Maughan for reasons similar to those given for claims 1 and 26.

With respect to independent claim 11, neither Nessett nor Maughan teaches or suggests a translator to generate an identifier of a network entity that a data unit is targeted for based on ISAKMP information. As noted above, although Nessett describes a router that maps an SPI value to local network addresses, there is absolutely no mention whatsoever of using ISAKMP information to map to a local network address. Although Nessett describes using ISAKMP to perform security association negotiation, Nessett does not provide any teaching that a translator can generate an identifier of a network entity that a data unit is targeted for based on ISAKMP information. Maughan fails to provide any suggestion of using ISAKMP information to enable a translator to generate an identifier of a network entity that a data unit is targeted for. Therefore, even if the references are combined, the hypothetical combination of references does not teach or suggest *all* elements of claim 11.

Moreover, there simply is no motivation to combine the teachings of Nessett and Maughan. Nessett is completely silent on the use of ISAKMP information, especially initiator and responder cookies, to enable mapping to an identifier of a network entity that a data unit is targeted for. Although the presence of initiator and responder cookies would have been known to persons of ordinary skill in the art, such cookies have been primarily used for the purpose of establishing security associations for secure connections between network devices. It is the inventors of the present application that recognized that the ISAKMP information can be extended for use with other purposes, in particular for use by a translator to generate an identifier of a network entity that a data unit is targeted for. It is therefore submitted that no motivation or suggestion existed to combine the teachings of Nessett and Maughan. A *prima facie* case of obviousness has thus not been established with respect to claim 11.

Independent claims 20 and 27 are allowable for reasons similar to those for claim 11.

Dependent claims are allowable for at least the same reasons as corresponding independent claims.

The Commissioner is authorized to charge any additional fees, including extension of time fees, and/or credit any overpayment to Deposit Account No. 20-1504 (NRB.0007US).

Respectfully submitted,

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Dan C. Hu, Reg. No. 40,025
TROP, PRUNER & HU, P.C.
8554 Katy Freeway, Suite 100
Houston, TX 77024
713/468-8880 [Ph]
713/468-8883 [Fax]